



## **North-South teleconnection in the deep ocean during the last interglacial period**

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Oxygen isotope analysis of benthic foraminifera in deep sea cores raised from the Atlantic and Southern oceans show that during the Last Interglacial period (from 129,000 to 118,000 years ago), Norwegian Sea deep waters and North Atlantic Deep Water (NADW) were about  $0.4 \pm 0.2$  °C warmer than today, whereas Antarctic Bottom Water had the same temperature. Model simulations performed with two Earth System Models of Intermediate Complexity show that the distribution of deep water temperatures may be explained as a response of the high latitude Ocean to the insolation forcing. In the North Atlantic, warm saline surface waters sank to form NADW warmer than today. This warming was transferred to the Circumpolar Deep Water by the deep thermohaline circulation, providing additional heat allowing enhanced melting of deep ice-shelves around Antarctica. This warming was potentially responsible for partial melting of the West Antarctic Ice Sheet, which contributed to the 4 to 6 m above present mean sea level during the Last Interglaciation.